Confirmation Field Sampling Plan for the V-Tanks, TSF-09/18, at Waste Area Group 1, Operable Unit 1-10 Remedial Action

1. OVERVIEW

In accordance with the *Federal Facility Agreement and Consent Order* (FFA/CO) (Department of Energy Idaho Operations Office [DOE-ID] 1991), the Department of Energy (DOE) submits the following Field Sampling Plan (FSP) for remedial design/remedial action (RD/RA) sampling at the Idaho National Engineering and Environmental Laboratory (INEEL) Test Area North (TAN) V-Tanks (Technical Support Facility [TSF]-09 and TSF-18 sites). This FSP is implemented with the latest revision of the *Quality Assurance Project Plan for Waste Area Groups 1, 2, 3, 4, 5, 6, 7, 10, and Inactive Sites* (DOE-ID 2000). In conjunction with the Quality Assurance Project Plan (QAPjP), this FSP constitutes the Sampling and Analysis Plan (SAP) for Waste Area Group (WAG) 1, Operable Unit (OU) 1-10 V-Tanks soil confirmation and unique secondary waste streams. The SAP is a supporting document to the *TSF-09/18 WAG 1, OU 1-10 Remedial Design/Remedial Action Work Plan* (RD/RA WP) (DOE-ID 2001).

The QAPjP and this FSP have been prepared in accordance with the *National Oil and Hazardous Substances Contingency Plan* (Environmental Protection Agency [EPA] 1990), *the Guidance for Conducting Remedial Investigations and Feasibility Studies under the Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) (EPA 1988), the FFA/CO (DOE-ID 1991), and Environmental Restoration (ER) Management Control Procedure (MCP)-241, "Preparation of Characterization Plans." This FSP provides guidance for the WAG 1, OU 1-10 sampling of tank excavation floor soils and unique secondary waste streams and includes guidance/procedures for sampling, quality assurance (QA), quality control (QC), chemical/radionuclide analysis, and data management. Use of the FSP will help ensure that data are scientifically valid, defensible, and of known and acceptable quality. The QAPjP describes project objectives and quality assurance/quality control (QA/QC) protocols that will achieve the specified data quality objectives (DQOs), and use of the QAPjP will ensure that the data generated are suitable for the intended uses.

1.1 Field Sampling Plan

This FSP will guide the collection and analysis of samples that will provide data to support and direct the remedial design for the remedial action specified in the *Final Record of Decision* (ROD) *for Test Area North, Operable Unit 1-10* (DOE-ID 1999a). Based on the DQOs developed for the sampling, data needs exist for characterizing the soils located beneath the excavated tanks and also for developing waste profiles for secondary waste streams that have inadequate existing data. Results from the samples collected under the guidance of this FSP will be used to satisfy the identified data needs.

1.2 Project Organization and Responsibility

The organizational structure illustrated in Figure 1-1 presents an overview of the general resources and expertise required to perform the work, while minimizing risks to worker health and safety.

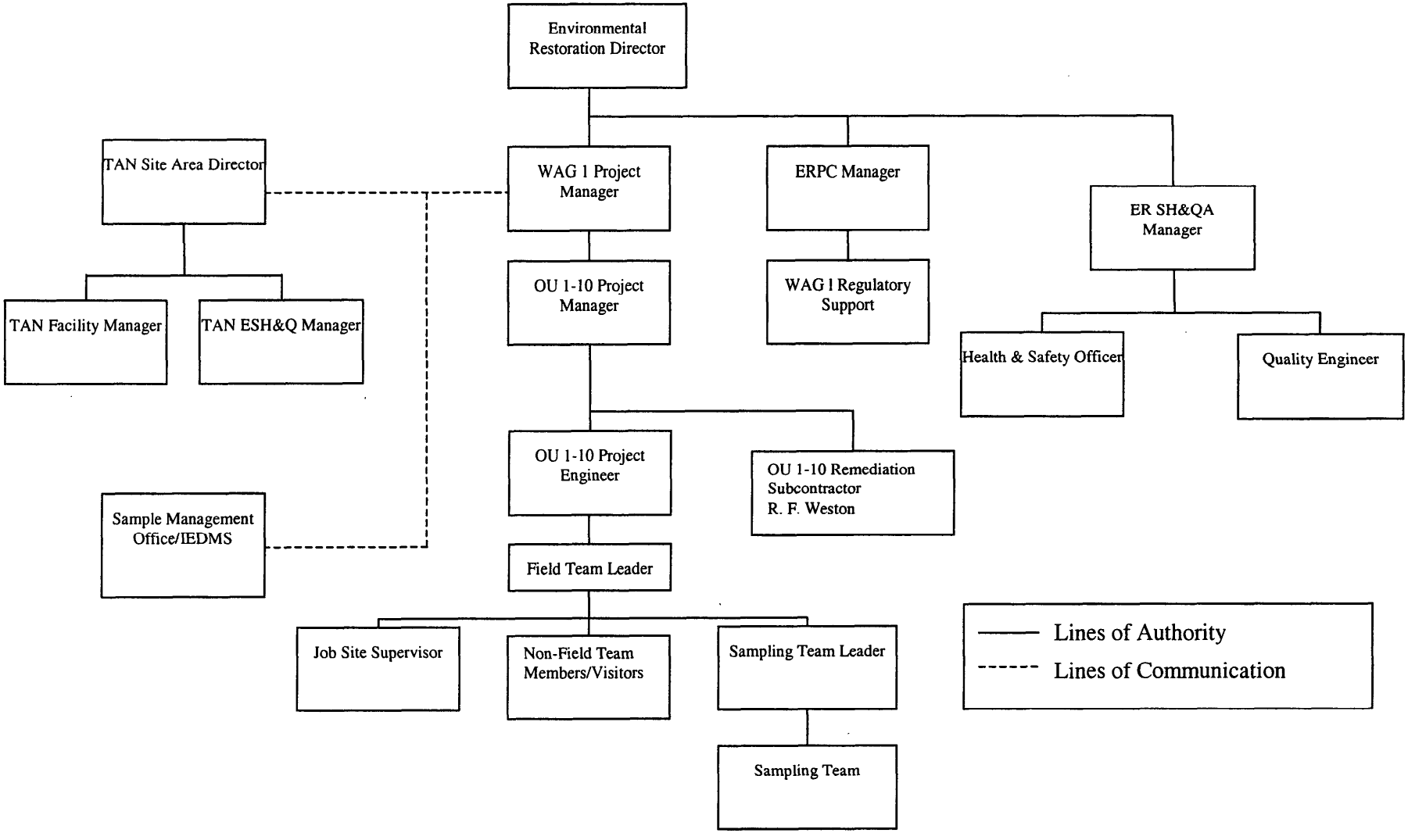

Figure 1-1. Overview of the V-Tanks remedial action organization structure.

1.2.1 Project Manager

The WAG 1 project manager (PM) or designee, such as the OU 1-10 RD/RA PM, will ensure that all project activities are in compliance with the following guidelines and regulations:

- INEEL MCPs and program requirements documents (PRDs)
- *Implementing Project Management Plan for the Idaho National Engineering and Environmental Laboratory Remediation Program* (INEEL 1998)
- The project Health and Safety Plan (HASP)
- All applicable Occupational Safety and Health Administration (OSHA), EPA, DOE, Department of Transportation (DOT), and State of Idaho requirements
- The QAPjP (DOE-ID 2000) and this FSP.

The PM is responsible for the overall work scope, schedule, and budget, including such tasks as:

- Developing resource-loaded, time-phased control account plans based on the project's technical requirements, budgets, and scheduled project tasks
- Coordinating all document preparation as well as field, laboratory, and modeling activities
- Implementing the project requirements and ensuring that work is performed as planned.

The PM will ensure that employee job function evaluations (INEEL Form 340.02) are completed for all project employees, reviewed by the project industrial hygienist (IH) for validation, and submitted to the Occupational Medical Program (OMP) for determination of necessary medical evaluations.

Other functions and responsibilities of the PM include:

- Developing the documentation required to support the project
- Ensuring the technical review and acceptance of all project documentation
- Developing the site-specific plans required by the ER program, such as work plans, environmental, safety and health (ES&H) plans, and SAPs
- Ensuring that project activities and deliverables meet schedule and scope requirements, as described in the FFA/CO, Attachment A, "Action Plan for Implementation of the Federal Facility Agreement and Consent Order" (DOE-ID 1991), and applicable guidance
- Supporting CERCLA and National Environmental Policy Act public review and comment processes by identifying their requirements and scheduling and organizing required review and comment activities
- Ensuring compliance with Conduct of Operations and verifying the completion of the hazards checklist and job safety analysis, as required by MCP-3562, "Hazard Identification, Analysis, and Control of Operational Activities."

- Identifying the subproject technology needs

- Coordinating and interfacing with the units within the program support organization on issues relating to QA, ES&H, and National Environmental Policy Act support for the project

- Coordinating site-specific data collection, review for technical adequacy, and input to an approved database, such as the Environmental Restoration Information System

- Coordinating and interfacing with subcontractors to ensure that milestones are met, adequate management support is in place, technical scope is planned and executed appropriately, and project costs are kept within budget.

1.2.2 Project Engineer

The project engineer (PE) is responsible for the execution of the project's technical work. This includes, but is not limited to:

- Supervising engineers to ensure that timely, cost-effective engineering and design services are performed in accordance with project orders and directives, using sound engineering practices and high technical standards

- Providing technical resource and schedule integration, establishing priorities, and identifying and requesting the resources necessary to accomplish work objectives for all assigned engineering and design activities

- Ensuring that the work performed is clear, concise, and executable, by working with the customer and the PM to establish firm project/task requirements

- Developing the project technical execution strategy and ensuring that cost-effective design solutions are developed in accordance with safety, environmental, and quality objectives

- Reviewing project status and variances and providing corrective actions

- Resolving conflicts regarding project requirements and project team members' comments on design, including defending and presenting design positions to the project team and the Agencies

- Coordinating all ER project designs with the appropriate Site Area Director's engineering manager.

In addition, the PE is responsible for the project's technical staffing. This will include serving as an interface between the PM, the appropriate functional managers of the organizations providing the technical staff, and Roy F. Weston, Inc. (WESTON) remediation personnel.

The PE is accountable to the PM for all cost and schedule performance of the assigned technical tasks and to the functional managers for the technical quality of a project's work products.

The PM is also responsible for completing the Hazard Profile Screening Checklist, as part of the integrated work control process.

1.2.3 OU 1-10 Remediation Subcontractor, WESTON

The OU 1-10 remediation subcontractor, WESTON, has primary responsibility for the preparation and implementation of RD/RA documentation including the work plan, appendices, and supporting documents. WESTON will support soil confirmation and secondary waste sampling activities.

1.2.4 Field Team Leader

The field team leader (FTL) has ultimate responsibility for the safe and successful completion of the sampling project, and all health and safety issues at the work site must be brought to the FTL's attention. In addition to managing field operations, executing the FSP, enforcing site control, documenting work site activities, and conducting daily safety briefings, the FTL's responsibilities include, but are not limited to, the following:

- Performing the technical and operational requirements of the sampling activities
- Conducting field analyses and decontamination activities
- Complying with equipment removal procedures
- Packaging and shipping samples
- Determining, in conjunction with the site IH and radiological control technician (RCT), the level of personal protective equipment (PPE) necessary for the task being performed
- Ensuring compliance with field documentation, sampling methods, and chain-of-custody requirements
- Ensuring the safety of personnel conducting the activities associated with the FSP.

The FTL may be a member of the sampling team, and FTL responsibilities may be transferred to a designated representative who satisfies all FTL training requirements. It is yet to be determined whether the FTL will be assigned by Bechtel BWXT Idaho, LLC (BBWI) or WESTON.

1.2.5 Job Site Supervisor

The job site supervisor (JSS) is the supervisor of crafts and other facilities, utilities, and maintenance (FUM) personnel and serves as the representative for the FUM Department of Site Services Branch at the task site. The JSS acts as the interface between FUM and ER. The JSS is responsible for the following:

- Ensuring that the objectives of the project are accomplished in a safe and efficient manner
- Managing field operations and executing the work plan
- Enforcing site control and obtaining additional resources, as needed, at the site
- Interacting with the IH, safety professional (SP), radiological engineer (RE), RCT, and health and safety officer (HSO) on matters regarding health and safety.

The JSS and the FTL work as a team to accomplish daily operations, identify and obtain additional needed resources, and interact with the HSO, IH, SP, RE, and/or RCT at the task site. In addition to the FTL, the JSS must also be informed of any health and safety issues arising at the task site and is authorized to stop work if an unsafe condition exists.

1.2.6 Sampling Team Leader

The sampling team leader (STL) reports to the FTL and has ultimate responsibility for the safe and successful completion of assigned project tasks, including:

- Overseeing the sampling team
- Ensuring that the samples are collected from appropriate locations
- Ensuring that proper sampling methods are employed, chain-of-custody procedures are followed, and shipping requirements are met.

If the STL leaves the task site, an alternate individual will be appointed to act in this capacity. An acting STL on the task site must meet all the same training requirements as the FTL, as outlined in Section 4 of the project HASP. The identity of the acting STL shall be conveyed to task-site personnel, recorded in the daily force report, and communicated to the FTL and TAN Site Area Director, or designee, when appropriate. It is yet to be determined whether BBWI or WESTON will assign the STL.

1.2.7 Sampling Team

The sampling team will consist of a minimum of two members who will perform the onsite tasks necessary to collect the samples. The buddy system will be implemented for all tasks, and no team member will enter the contamination area alone. The members of the sampling team will be led by an FTL, who may also serve as the project FTL. The IH and RCT will support the sampling team, as warranted, in response to site-specific hazards and task evolutions.

1.2.8 TAN Site Area Director

The TAN Site Area Director reports to the Director of Site Operations and interfaces with the TAN facility manager and, therefore, must be informed of all activities performed in the area. Functions and processes at TAN for which the Tan Site Area Director is responsible include:

- Overseeing all work processes and work packages performed at TAN
- Establishing and executing a monthly, weekly, and daily operating plan for TAN
- Executing the Environmental, Safety, Health, and Quality (ESH&Q) program for TAN
- Executing the Integrated Safety Management System for TAN
- Executing Enhanced Work Planning for TAN
- Executing the Voluntary Protection Program at TAN
- Ensuring environmental compliance within TAN

- Executing the portion of the voluntary consent order that pertains to TAN
- Correcting the root cause functions of accident investigations at TAN
- Correcting the root cause functions of the voluntary consent order for TAN.

1.2.9 Sample Management Office

The INEEL Sample Management Office (SMO) will obtain laboratory services (as required) ensure that the generated data meet the needs of the project by validating all analytical laboratory data according to resident protocol, and ensure that data are reported to the project personnel in a timely fashion, as required by the FFA/CO.

The assigned SMO representative is responsible for:

- Interfacing with the PM and/or designee during the preparation of the SAP database, as required by MCP-227, "Sampling and Analysis Process for CERCLA and D&D Activities"
- Providing guidance on the appropriate number of field quality control samples required by the QAPjP (DOE-ID 2000)
- Providing guidance on the appropriate bottle size and preservation method(s) for sample collection
- Ensuring that the sample identification numbers used by the project are unique from all others ever assigned by the Environmental Data Management System.

The preparation of the Sampling and Analysis Plan database, along with the completion of the SMO services request form (INEEL Form 435.26), initiates the sample and sample waste tracking activities performed by the SMO.

The SMO-contracted laboratory will have overall responsibility for laboratory technical quality, laboratory cost control, laboratory personnel management, and adherence to agreed-upon laboratory schedules. Responsibilities of the laboratory personnel include:

- Preparing analytical reports
- Ensuring completion of chain-of-custody information
- Ensuring all QA/QC procedures are implemented in accordance with SMO-generated task order statements of work (SOWs) and master task agreements.

1.2.10 Integrated Environmental Data Management System Technical Leader

The Integrated Environmental Data Management System (IEDMS) technical leader will interface with the PM during the preparation of the IEDMS database required by MCP-227, "Sampling and Analysis Process for CERCLA and D&D Activities." Additionally, the IEDMS technical leader will:

- Provide guidance on the appropriate number of field quality control samples required by the QAPjP (DOE-ID 2000) and the appropriate bottle size and preservation methods(s) for sample collection.

1.2.11 Environmental Restoration Program Coordination Manager

The Environmental Restoration Program Coordination (ERPC) manager is responsible for:

- Managing the Environmental Compliance resources to ensure that the environmental compliance requirements are planned, implemented, and executed in the daily operations for the ER program at the INEEL
- Directing the accomplishment of all environmental compliance activities by providing technical and administrative direction to subordinate staff by coordinating with related functional entities.

The ERPC manager under the direction of the ER Director represents the ER directorate in all environmental compliance matters.

1.2.12 WAG 1 Regulatory Support

The assigned WAG 1 Regulatory Support representative oversees, monitors, and advises the PM and FTL on environmental issues and concerns regarding task-site activities and is responsible for:

- Ensuring compliance with DOE orders, EPA regulations, and other regulations concerning the effects of task-site activities on the environment
- Providing support surveillance for hazardous waste storage and transport and for surface water/storm water runoff control
- Assisting the PE in completing the Hazards Profile Screening Checklist.

1.2.13 ER Safety, Health, and Quality Assurance Manager

The ER safety, health, and quality assurance (SH&QA) manager, or designee, reports directly to the ER director and is responsible for managing SH&QA resources, including:

- Ensuring that SH&QA programs, policies, standards, procedures, and mandatory requirements are planned, scheduled, implemented, and executed in the daily ER operations
- Directing SH&QA compliance in all activities by coordinating related functional entities and providing technical and administrative direction to subordinate staff.

Under the direction of the ER director, the ER SH&QA manager represents the ER directorate in all SH&QA matters and is responsible for:

- ER SH&QA management compliance
- Oversight for all ER CERCLA and decontamination and dismantlement operations planned and conducted at WAGs 1, 2, 3, 4, 5, 6, 7, and 10
- ER INEEL-wide environmental monitoring activities.

The ER SH&QA manager directs the management of personnel and the implementation of programs related to the following technical disciplines:

- Radiological Control (RadCon) (TAN support)
- Industrial safety
- Fire protection
- Quality assurance
- Industrial hygiene
- Emergency preparedness.

1.2.14 Health and Safety Officer

The HSO assigned to the task site serves as the primary contact for all health and safety issues. Other ES&H professionals at the task site, including the SP, IH, RCT, RE, and the facility representative, support the HSO, as necessary. The HSO will ensure that the appropriate SH&QA personnel participate in the development and verification of the hazards screening profile checklist in accordance with Standard (STD)-101 or MCP-3562. The HSO advises the FTL on all aspects of health and safety and is authorized to:

- Stop work at the site if any operation threatens worker or public health and/or safety
- Verify compliance with the HASP to conduct conformance inspections and self-assessments
- Require and monitor corrective actions
- Monitor decontamination procedures, as appropriate.

The assigned HSO, or alternate HSO, must be qualified (pursuant to the OSHA definition) to recognize and evaluate hazards, and the HSO, or alternate, will be given the authority to take or direct actions to ensure that workers are protected. The HSO may also serve as the IH, SP, or, in some cases, the FTL, depending on the hazards, complexity, and size of the activity involved and required concurrence from the ER Safety and Health compliance officer. However, other task-site responsibilities of the HSO must not conflict (either philosophically or in terms of increased volume of work) with the role of the HSO at the task site.

If the HSO must leave the site, he or she will appoint an alternate individual as the acting HSO. The identity of the acting HSO will be recorded in the FTL's logbook and communicated to task-site personnel.

1.2.15 Quality Assurance Engineer

The QA engineer provides guidance on task-site quality issues, when requested, and is responsible for:

- Observing task-site activities and verifying that task-site operations comply with quality requirements pertaining to these activities

- Identifying activities that do not or potentially will not comply with quality requirements and suggesting corrective actions.

1.2.16 Radiological Control Technician

The RCT is the primary source of information and guidance on radiological hazards that may be encountered while performing work. The RCT will be present at the task site during work operations where a radiological hazard to operations personnel may exist or is anticipated. In addition to other possible duties at the site specified in other sections of the project HASP, the PRDs, and/or MCPs, responsibilities of the RCT include:

- Performing radiological surveys of the work site, equipment, and samples
- Providing guidance for radiological decontamination of equipment and personnel
- Notifying the HSO and FTL of any radiological occurrence that must be reported, in compliance with the INEEL *Radiological Control Manual* (PRD-183)
- Accompanying any affected personnel to the nearest INEEL medical facility for evaluation if significant radiological contamination occurs.

1.2.17 Safety Engineer

The safety engineer (SE) is responsible for:

- Reviewing work packages and observing work-site activity
- Assessing compliance with the INEEL *Safety and Health Manual* (PRD-183)
- Signing safe work permits
- Advising the FTL on required safety equipment
- Answering questions on safety issues and concerns
- Recommending solutions to safety issues and concerns that arise at the work site.

The SE may conduct periodic inspections in accordance with MCP-3449, "Safety and Health Inspections," and have other duties at the work site as specified in other sections of the project HASP. Copies of the SE's inspections will be kept in the project field file.

1.2.18 Fire Protection Engineer

The fire protection engineer reviews the work packages, conducts preoperational and operational fire hazard assessments, and is responsible for providing technical guidance to work-site personnel regarding all fire protection issues.

1.2.19 Criticality Engineer

The criticality engineer is responsible for conducting the project's criticality review. In the event that work falls outside the bounds of the project HASP (e.g., unanalyzed hazards and conditions), the criticality engineer may work in conjunction with safety analysts to address these hazards in accordance with the Unreviewed Safety Question process.

1.2.20 Industrial Hygienist

The IH is the primary source of information regarding nonradiological hazardous and toxic agents at the work site. The IH will be present at the task site during all work operations involving either existing or anticipated chemical hazards to operations personnel. Along with any additional duties at the task site specified in other sections of the project HASP or company procedures and manuals, the IH is responsible for:

- Assessing the potential for worker exposures to hazardous agents in accordance with INEEL procedures and the INEEL *Safety and Health Manual* (PRD-183)
- Assessing and recommending appropriate hazard controls for protection of work-site personnel
- Reviewing the effectiveness of monitoring and PPE required in the project HASP and recommending changes, as appropriate.

The IH will review all employee job function evaluations (INEEL Form 340.02) to validate management's completion of the form. After validation, the form will be sent to the OMP for the scheduling of a medical evaluation, as needed.

Following an evacuation, the IH will assist in determining whether conditions at the task site are safe for reentry. The IH, HSO, and/or personnel supervisors will refer any personnel showing health effects resulting from possible exposure to hazardous agents to the OMP. During emergencies involving hazardous material, members of the Emergency Response Organization will perform industrial hygiene measurements.

1.2.21 Radiological Engineer

The RE is the primary source for information and guidance relative to the evaluation and control of radiological hazards that may be encountered at the site. However, only initial work package and occasional RE support is anticipated for this project. In addition to performing other assigned duties, the RE will be responsible for:

- Providing engineering design criteria, reviewing containment structures, and making recommendations to minimize health and safety risks to site personnel
- Performing radiation exposure estimates and as low as reasonably achievable evaluations
- Identifying the type(s) of radiological monitoring equipment necessary for the work
- Advising the HSO, FTL, and RCT of changes in monitoring, PPE, or excavation requirements and advising personnel regarding site evacuation and reentry, as necessary.

1.2.22 Task-Site Personnel

All task-site personnel must understand and comply with the requirements of the project HASP. At the start of each shift, the FTL or HSO will conduct a plan-of-the-day briefing to discuss all daily tasks, associated hazards, hazard mitigation (e.g., engineering and administrative controls, required PPE, work control documents), and emergency conditions and actions. During plan-of-the-day briefings, the project HSO, IH, and RCT will provide input, as deemed appropriate, to clarify health and safety requirements for the tasks. All personnel will be encouraged to ask questions regarding site tasks and to provide suggestions for performing required tasks in a more safe and effective manner, in response to lessons learned from the previous day's activities.

Once at the site, all personnel are responsible for identifying any potentially unsafe situations or conditions to the FTL or HSO for corrective action. **If an unsafe condition is perceived to pose an imminent danger, site personnel are authorized to stop work immediately and must notify the FTL or HSO of the unsafe condition.**

1.2.23 Non-Field Team Members/Visitors

All persons on the site who are not part of the field team (e.g., surveyor, equipment operator, or other craft personnel not assigned to the project) are considered non-field team members or visitors for the purposes of this project. A person shall be considered "onsite" when that individual is present in or beyond the designated support zone. Under 29 Code of Federal Regulations (CFR) 1910.120/1926.65, non-field team members are considered occasional site workers and must:

- Receive any additional site-specific training identified in Section 4 of the HASP prior to entering beyond the support zone of the project site
- Meet all training requirements based on the tasks taking place, as identified in Section 4
- Meet minimum training requirements for such workers as described in the OSHA standard
- Meet the same training requirements as the workers if the nonworker's tasks require entry into the work control zone.

Training must be documented, and a copy of the documentation must be incorporated into the project field file. A site supervisor (e.g., HSO or FTL) shall supervise all non-field team personnel who have not completed their three days of supervised field experience, in accordance with the hazardous waste operations standard.

1.3 Points of Contact

Table 1-1 lists the key points of contact for the WAG 1, OU 1-10 V-Tank field activities.

Table 1-1. Points of contact.

Name	Title	Telephone number
TBD	ER Director	TBD
Charlie Chebul	ER ESH&QA Manager	(208) 526-9566
Brad Frazee	WAG 1 Project Manager	(208) 526-3775
Allen E. Jantz	OU 1-10 RD/RA Project Manager	(208) 526-8517
Berg Keshian, Jr.	WESTON Program Manager	(505) 837-6541
James Lockhart	WESTON Project Manager	(208) 241-7805
Dan Brennecke	WESTON Project Engineer	(970) 241-5050
Jerry Shea	WAG 1 Project Engineer	(208) 526-6954
TBD	OU 1-10 Project Engineer	TBD
TBD	Health and Safety Officer	TBD
TBD	Industrial Hygienist	TBD
TBD	Safety Engineer	TBD
TBD	Fire Protection Engineer	TBD
TBD	Radiological Control Technician	TBD
TBD	RadCon/Radiological Engineer	TBD
Bill Lonergan	TAN Site Area Director	(208) 526-0584
Kevin Streeper	TAN Facility Manager	(208) 526-6151
R.G. Thompson	QA Engineer	(208) 526-9618
TBD	Sample Management Office	TBD
TBD	IEDMS Technical Leader	TBD
TBD	Field Team Leader	TBD
TBD	Assistant Field Team Leader	TBD

TBD = To be determined at a later date.

ESH&QA = Environment, Safety, Health, and Quality Assurance.